



## Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at <http://about.jstor.org/participate-jstor/individuals/early-journal-content>.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact [support@jstor.org](mailto:support@jstor.org).

of cones already known as occurring in the Palæozoic rocks. As found in a calcified form, the cone, somewhat flattened, measures about 5 cm. in its greatest, and from 2 to 2.3 cm. in its shortest diameter. It consists of a cylindrical axis bearing numerous compressed sporophylls arranged in crowded, many membered verticils. Each sporophyll is divided nearly to its base into an inferior and a superior lobe; the lobes are palmately divided into segments, of which half are fertile and half are sterile, each segment consisting of an elongated stalk bearing a terminal lamina. The large sporangia, of which there are usually four on each sporangiophore, are attached by their ends remote from the axis, to the peltate laminae of the sporangiophores, and contain numerous spores. These latter are about .065 mm. in diameter.

While there are certain features which suggest comparison with certain Gymnosperms, Dr. Scott concludes that in reality it belongs to the Sphenophylleæ, presenting, in certain respects, a remarkable agreement with such forms as *Sphenophyllum dawsoni* and *S. Cuneifolium*. From the additional light which this plant throws upon the allied genus, the Sphenophyllineæ are regarded as representing a generalized type combining many of the features of Equisetineæ and Lycopodineæ, and indicating the common origin of these two series.

**Lepidophloios.**<sup>1</sup>—Recent studies of material collected during the past fifty years enable the author to separate two species under the names of *Lepidophloios acadianus* and *L. cliftonensis*. The genus is represented by large and dichotomously branching trees bearing very long and linear leaves. The usually stout branches give rise to slender branchlets bearing spirally arranged and stalked cones. The persistent leaf bases give to the stem a rugged and scaly appearance, but as these characters are removed by decay or other causes, there often remains only a smooth surface bearing mere traces of the original leaves, hence much of the material properly belonging to this genus has been described under the name of *Halonias* and *Bothrodendron*.

The internal structure conforms to the Sigillarian type. The author shows that the genus is clearly related to *Lepidodendron*, with which it may readily be confounded, and summarizes his views as to the general relations of this and allied genera in the statement

<sup>1</sup> Dawson, Sir J. W. On the Genus *Lepidophloios* as Illustrated by Specimens from the Coal Formation of Nova Scotia and New Brunswick, C. M. G., *Trans. R. Soc. Can.*, Second Ser., III (1897), iv, 57.

that the "Sigillariæ are to be regarded as a central generalized group, from which, in regard to structure and affinities, various genera radiate towards Cycads and Conifers on the one hand and Lycopods and Equisetums on the other."

D. P. P.

---

## PETROGRAPHY.

**The Classification of Igneous Rocks.** — Messrs. Iddings<sup>1</sup> and Cross<sup>2</sup> have contributed two interesting articles on that most attractive of all petrographical problems, the classification and naming of igneous rocks. Although attacking the subject from entirely different standpoints, both authors nevertheless reach approximately the same conclusions. Cross declares that "the impossibility of setting up an all-embracing natural classification of igneous rocks is not due to ignorance. It comes from the nature of the rock. The more we know the less shall we be able to include all relations in one classification." Iddings states "that a systematic classification of all kinds of igneous rocks cannot be put on the same basis as a philosophical treatise of the subject-matter of petrology, which takes cognizance not only of the material character of rocks, but also of the laws governing their production, eruption, mode of occurrence, and solidification, as well as their subsequent alteration."

Iddings discusses critically, with the aid of diagrams, the composition of igneous rocks, as indicated by nine hundred and fifty-eight analyses, and shows that no chemical classification will exhibit the true genetic relationships existing between different rock types, and that a mineralogical classification is likewise useless for this purpose. It is, therefore, of no avail to attempt a genetic classification of rocks if it is desired by the classification to group together those rocks that have like characters, in order that they may receive a common name. The present classification, and the nomenclature to which it has given rise, are both unsatisfactory. The need for a new nomenclature is especially pressing, and yet "the condition of our knowledge at present is scarcely such as to warrant the immediate attempt to create a systematic nomenclature."

The point of Cross's paper is to the effect that the present unsatisfactory condition of rock classification is due to the fact that too many

<sup>1</sup> Iddings, J. P. On Rock Classification, *Journ. of Geol.*, vol. vi, p. 91.

<sup>2</sup> Cross, W. The Geological *versus* the Petrographical Classification of Igneous Rocks, *Journ. of Geol.*, vol. vi, p. 79.